

Rocket Project Scoring Rubric
"Newton's Three Laws in Rocket Principles"

State of Maine Learning Results Assessed

I1-Describe the motion of objects using knowledge of Newton's Laws.

J6-Design, construct, and test a device that solves a special problem.

Assignment:

Phase 1-Research Newton's Three Laws of Motion. Develop a sound understanding of what the laws mean and how they are applied in real life situations (don't just copy the definition and leave it at that). Apply your knowledge of Newton's Laws of Motion to modern rocketry.

Phase 2-Form a team to design, build, and launch a 2L bottle rocket that will successfully lift off AND return to Earth safely (your rocket will need a parachute that will deploy at the appropriate time). We will film the rocket launch for phase 3 completion.

Phase 3- Create a Quicktime movie (use iMovie) of the rockets being launched. In that movie you must define Newton's Three Laws of motion, AND, demonstrate the three laws using appropriate footage from the video. Your video also must contain music composed by you using Garageband (no CD's or downloaded music allowed!). Upon completion of the movie, save it to CD and turn into me.

To exceed basic requirements (to exceed the standard):

Demonstrate other forces/laws of motion beyond Newton's 3 Laws.

Personalize your movie (singing, voice overs...etc)

Rubric

	1-DNM	2-PM	3-M	4-E	Score
Use of Class Time	Did not use class time to work on project or distracted others from their work.	Focused on project occasionally. Majority of time still disturbing others and not working	Worked on the project most of the time. Did not distract others.	Always focused on using class time for project. Never caused distraction.	
Research quality and content	Able to extract information, but does not apply the information correctly in movie	Able to extract information, and applies the information in the movie with a few mistakes.	Able to extract information and apply it correctly in the movie	Able to extract the information and apply it correctly in the movie. Also, adds other important aspects of motion in movie.	
Video quality and content	Does not include important information in movie. Appears sloppy, poorly designed, and does not meet movie requirements	Includes some important information but not all required. Movie appears messy, unorganized, and unclear. Minimal requirements of movie met.	Includes all important information. Movie appears attractive and neat. Adequate creativity in meeting the movie requirements.	Includes all important information. Movie is exceptionally attractive containing NO errors. Exemplary creativity in meeting movie requirements.	
Collaborative performance	Did not cooperate with group members when constructing the rocket. Very disruptive.	Minimal cooperation with group members. Acted as a distraction.	Cooperated well with group members. At times focused on individual work rather than teamwork.	Cooperated extremely well with group. Kept the idea of working as a team in mind. Refocused and assisted group members when needed.	

Total Points Scored _____ Grade: _____

I1- Does not meet Partially Met Meets Exceeds (Standards based grade)

J6- Does not meet Partially Met Meets Exceeds (Standards based grade)

Scoring Breakdown: 16-14=A 13-11=B 10-8=C 7-5=D 4-0=F